

Serial No. 10/828,554

Docket No. IPS-0023

Amdt. dated November 28, 2006

Reply to Office Action of August 29, 2006

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Original) An apparatus for preventing an auto-convergence error in a projection television receiver (TV) provided with a screen for displaying an image signal and first to eighth sensing units having first and second optical sensors for sensing a pattern displayed on the screen, the apparatus comprising:

first and second amplifying units for receiving and amplifying sensed values sensed by the first to fourth sensing units and the fifth to eighth sensing units with predetermined multiple amplification factors;

first and second comparators for receiving and comparing amplified values outputted from the first and second amplifying units;

an inverter for inverting output values of the first and second comparators;

an operation unit for AND-gating the outputs of the amplifying units and outputs of the inverter; and

a microcomputer for receiving an output of the operation unit, judging a degree of convergence correction, and outputting a corresponding control signal.

2. (Original) The apparatus of claim 1, wherein the operation unit comprises:

an XOR operation unit for receiving and XOR-gating signals inputted to non-inverting (+) terminals of the first and second comparators; and

an AND gate for receiving and AND-gating an output of the XOR operation unit and the output of the inverter.

3. (Original) An apparatus for preventing an auto-convergence error in a projection television receiver (TV) provided with a screen for displaying an image signal and first to eighth sensing units having first and second optical sensors for sensing a pattern displayed on the screen, the apparatus comprising:

a first amplifying unit for receiving and amplifying sensed values outputted through first optical sensors provided in the first to fourth sensing units and sensed values outputted through second optical sensors provided in the first to fourth sensing units;

a second amplifying unit for receiving and amplifying sensed values outputted through first optical sensors provided in the fifth to eighth sensing units and sensed values outputted through second optical sensors provided in the fifth to eighth sensing units;

a comparing unit for receiving and comparing amplified values outputted from the first and second amplifying units;

an inverter for inverting output values of the comparing unit;

a first operation unit for receiving and operating output values from all output terminals of the first and second amplifying units;

a second operation unit for receiving and operating output values of the first operation unit and the inverter; and

a microcomputer for outputting a control signal for a convergence control in accordance with an output of the second operation unit.

4. (Original) The apparatus of claim 3, wherein the first amplifying unit comprises:

second, fourth, sixth and eighth amplifiers for receiving and amplifying the sensed values outputted through the first optical sensors in the first to fourth sensing units; and

first, third, fifth and seventh amplifiers for receiving and amplifying the sensed values outputted through the second optical sensors in the first to fourth sensing units.

5. (Original) The apparatus of claim 3, wherein the second amplifying unit comprises:

10th, 12th, 14th and 16th amplifiers for receiving and amplifying the sensed values outputted through the first optical sensors in the fifth to eighth sensing units; and

9th, 11th, 13th and 15th amplifiers for receiving and amplifying the sensed values

outputted through the second optical sensors in the fifth to eighth sensing units.

6. (Original) The apparatus of claim 3, wherein the first operation unit receives and XOR-gates all the output values of the first and second amplifying units.

7. (Original) The apparatus of claim 3, wherein the second operation unit receives and AND-gates the outputs of the first operation unit and the inverter.

8. (Original) The apparatus of claim 3 wherein the second operation unit further comprises a latch for providing results of the AND-gating to the microcomputer.

9. – 13. (Canceled)

14. (New) An apparatus for preventing an auto-convergence error in a projection television receiver (TV) provided with a screen for displaying an image signal and first to eighth sensing units having first and second optical sensors for sensing a pattern displayed on the screen, the apparatus comprising:

an amplifying unit for amplifying sensed values outputted through the first to eighth sensing units,

a comparing unit for receiving and comparing amplified values outputted from the amplifying unit,

a first operation unit for receiving and AND-gating all output values of the comparing unit,

a second operation unit for receiving and operating the signals inputted to non-inverting terminals of the comparing unit,

an inverter for inverting outputs of the comparing unit,

a third operation unit for receiving and AND-gating an output of the second operation unit and an output of the inverter,

a D-type flip-flop for receiving an output of the third operation unit as its clock input and latching data, and

a microcomputer for outputting a control signal for a convergence control in accordance with an output value of the D-type flip-flop.

15. (New) The apparatus of claim 14, wherein the amplifying unit includes a first amplifying unit for receiving and amplifying sensed values outputted through the first optical sensors provided in the first to fourth sensing units and sensed values outputted through the second optical sensors provided in the first to fourth sensing units; and

a second amplifying unit for receiving and amplifying sensed values outputted

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through first optical sensors provided in the fifth to eighth sensing units and sensed values outputted through second optical sensors provided in the fifth to eighth sensing units.

16. (New) The apparatus of claim 15, wherein the comparing unit includes a first and a second comparing units for receiving and comparing the sensed values of the first to eighth sensing units which are outputted from the first and second amplifying units.

17. (New) The apparatus of claim 15, wherein the second operation unit XOR-gates all outputs of the comparing unit.